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- DEPARTMENT OF THE ARMY**

5 8. A method of printing monochrome and full color images onto a substrate
having a continuous surface, the method comprising the steps of

(a) forming an image created by a xerographic copier or a dry toner printer on
an image carrier providing a surface of a material comprising
polymethylpentene material to provide a toner image on the image carrier,

10 (b) placing the image carrier against the surface of the substrate with the toner
image between said surface of the image carrier and the substrate, the
substrate having a greater affinity for the toner than the image carrier when
the toner is heated;

(c) heating the image carrier and substrate, with the toner image therebetween,
under pressure;

15 (d) thereafter removing the image carrier from the substrate, with the toner
image wholly transferred to the substrate.

9. A method according to claim 8 wherein the image carrier provides a carrier
20 surface provided by film form polymethylpentene copolymer material.

10. A method according to claim 8 wherein the image carrier is provided by a
material as set forth in claim 1.

25 11. A method according to claim 8 wherein, in carrying out step (c), the image
carrier and the substrate are subjected to heating at a temperature in the range of 140
degrees Celsius to 200 degrees Celsius.

30 12. A method according to claim 8 wherein, in carrying out step (c), the image
carrier and the substrate are subjected to heating at a temperature in the range of 165 degrees
Celsius to 195 degrees Celsius.

35 13. A method according to claim 8 wherein, in carrying out step (c), the image
carrier and the substrate are subjected to heating at a mean temperature of 180 degrees
Celsius.

5 14. A method of printing monochrome and full color images onto a surface, the method comprising the steps of

- 10 (a) forming an image created by a xerographic copier or a dry toner printer on a first image carrier to provide a toner image on the first image carrier,
- (b) placing the first image carrier against a surface of a second image carrier with the toner image between the first image carrier and the second image carrier, the surface of the first image carrier being provided by polymethylpentene material and the second image carrier having a greater affinity for the toner than the first image carrier when the toner is heated;
- 15 (c) heating the first and second image carriers, with the toner image therebetween, under pressure;
- (d) thereafter removing the first image carrier from the second image carrier, with the toner image wholly transferred to the second image carrier;
- (e) placing the second image carrier against a surface of a substrate, onto which the toner image is to be ultimately transferred, with the toner image therebetween, the substrate having a greater affinity for the toner than the second image carrier;
- 20 (f) heating the second image carrier and the substrate, with the toner image therebetween, under pressure; and
- (g) thereafter removing the second image carrier from the substrate; with the toner image wholly transferred to the substrate.

25 15. A method according to claim 14 wherein the first image carrier provides a carrier surface provided by a supported coating or layer of a material comprising polymethylpentene material.

30 16. A method according to claim 14 wherein the polymethylpentene material is formed as a coating having a weight in the range of about 10 grams/m² to about 30 grams/m².

35 17. A method according to claim 14 wherein the first and second image carriers, with the toner image therebetween, are subjected to a temperature in the range of 140-200 degrees Celsius.

5 18. A method according to claim 14 wherein the second image carrier and the substrate, with the toner image therebetween, are subjected to a temperature in the range of 140-200 degrees Celsius.

10 19. A method according to claim 14 wherein step (c) is carried out by passing the first and second image carriers through a heated roller unit to heat the toner image to a temperature in the range of 140-200 degrees Celsius.

15 20. A method according to claim 14 wherein step (f) is carried out by passing the second image carrier and the substrate through a heated roller unit to heat the toner image to a temperature in the range of 140-200 degrees Celsius.

20 21. A method according to claim 14 wherein heating of the first and second image carriers is carried out by a temperature controlled heating bar which may be fixed in position or movable so that the image carriers are effectively drawn past the bar while pressure is applied thereto by the bar.

25 22. A method according to claim 14 wherein heating of the second image carrier and the substrate is carried out by a temperature controlled heating bar which may be fixed in position or movable so that the second image carrier and the substrate are effectively drawn past the bar while pressure is applied thereto by the bar.

30 23. A method according to claim 8 wherein the substrate is selected from paper, card, cardboard, glass, ceramics, wood, metal, leather, metallised surfaces, fabrics and plastics materials.

 24. A method according to claim 14 wherein the substrate is selected from paper, card, cardboard, glass, ceramics, wood, metal, leather, metallised surfaces, fabrics, and plastics materials.

5 25. A method according to claim 8 wherein the full color image formed on a surface
by carrying out the method is intensified by overlaying a second identical image onto the first.

10 26. A method according to claim 14 wherein the full color image formed on a
surface by carrying out the method is intensified by overlaying a second identical image onto the
first.

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